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## A PILOT STUDY ON THE EFFICACY OF COLLEGE TEXTBOOK READING AND MULTICULTURAL LEARNING AMONG UNDERGRADUATE PSYCHOLOGY STUDENTS

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## CURRICULUM DESIGN | RESEARCH ARTICLE

### A pilot study on the efficacy of college textbook reading and multicultural learning among undergraduate psychology students

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**Abstract:** Engaging undergraduate students in upper-level psychology coursework that fosters empathy through readings of societal relevance is essential in understanding and respecting the complexity of a multicultural society. The goal of this pilot study was to measure the cultural sensitivity of students who engaged in an instructor-guided, collaborative research proposal on child welfare using a conventional textbook (n=36, Conventional Group [CG]) versus students who engaged in close readings of an unorthodox text covering clinical cases of adverse childhood experiences (ACEs) (n=31, Unconventional Group [UG]). We administered an adaption of the Cultural Diversity Assessment Inventory (CDAI) to 67 students enrolled in an ethnically diverse urban university and assessed the following areas: a) creating a multicultural society, b) cultural awareness, and c) cross-cultural communication. Results showed that multicultural awareness was higher in the UG than in the CG, suggesting that course discussions on clinical case studies enhanced the idea of a multicultural society than focusing on hypothesis testing in smaller student research teams. Both groups showed no differences in cultural awareness and cross-cultural communication and agreed that more cross-cultural course work is needed. Pedagogical aspects of course design for a more diverse classroom climate are further discussed.

**Keywords:** multicultural training; cross-cultural sensitivity; diversity; college textbook efficacy; psychology course; higher education

According to the Pew Research Center's population projection, the United States (US) populace is expected to become ethnically more diverse than ever before by the year 2050 (Passel & Cohn, 2008). The Pew projects that 50% of the population will be identified as being from other than of European ancestry. This sweeping change in demographics entails a proportionate transformation in relational dynamics within a much more culturally diverse classroom and workplace. This matter poses an urgent need to train college and university students to be multiculturally competent for the workforce given the erratic demands of the job market to be. Ultimately, aspiring higher education graduates shall be ready to cope with complex cultural diversity which is dictated by their respective work environment. This will allow them to effectively serve individuals and entities differing in age, ethnicity, creed, sexual orientation, socioeconomic status, language proficiency, and political worldview. While multicultural competency training can be a hallmark in professional success, little is known regarding how textbook usage in upper-level specialized courses influences students' diversity awareness.

The primary intent of the current research was to promote the implementation of tools that aid in the progression of cultural sensitivity as an integral part of the higher education curriculum. While previous research has shown that intercultural learning is associated with empathy peer training (Hatcher et al., 1994), atypical teaching styles and



learning trajectory (Poorman, 2002), and short-term study abroad and cultural sensitivity (Andha et al., 2020), the focus of this article is to explore the impact of textbook selection in relation to multicultural sensitivity among college students. Although a range of factors may contribute to students' cultural sensitivity learning, previous research has showed that assigning students reading material to reflect upon clinical case studies might foster competence in intercultural awareness and compassion in the helping profession (Papadopoulos et al., 2016). Dunn et al. (2010) urged that all "psychologists must concern themselves with diversity, or the ways in which people differ from one another.... Learning about diversity and culture should be a critical learning outcome for all students" (p. 57). Hence, the goal of the current pilot study was to explore whether a popular science textbook available as an audiobook by Szalavitz and Perry (2010), narrating real-life case studies on childhood adversities, would enhance multicultural learning among upper-level undergraduate psychology students in comparison to the usage of a textbook focusing on research methodology in human development (Miller, 2017).

The choice of textbooks in higher education influences the structure of the lesson plan and the organization of the course, thus decisions on the textbook selection criteria are important for students' critical learning. While some higher education institutions dictate which text materials to use, others leave it to their faculty's discretion. In specialized courses, it is often the case that the textbook selection is driven by the course instructor's individual preferences (Smith & DeRidder, 1997). In other instances, students' feedbacks in course evaluations toward the end of each semester inform the instructor's textbook choice (Druwin & Sherman, 2008). While the primary goal of a textbook is to transfer discipline-specific content knowledge, the instructor might, as well, use a textbook that tackles both student learning outcomes: content and cultural knowledge. As ethnic and cultural diversity is becoming the norm in the US within the next generation, only a handful of studies examined the cultural content of textbooks for which findings indicate that the academic materials lag and are not representative of the emerging diverse US society (e.g., Ceglie & Olivares, 2012; Wardle, 2007).

Currently, the usage of college textbooks in the US is a topic of controversy and ongoing discussion in education and politics. In 2015, Richard Cullata, top education advisor to President Barack Obama, recommended stopping the usage of printed textbooks within the next five years. Why? Because the moment they are printed, money is wasted. Cullata argued that printed textbooks are outdated and ineffective for inclusive teaching. Based on this argument, Cullata called out for more creative and flexible ways of academic material adaptations through open-source licensing or affordable digital versions (Wiggins, 2015). As of post-secondary education, the debate over textbooks is further amplified considering factors of affordability and alternatives (Dervarics, 2007; Helmer, 2019; Orchowski, 2004) whereas questions over textbooks role and efficacy in multicultural pedagogy remain unasked. To begin with, according to a consumer price index report by the U.S. Bureau of Labor Statistics (2016), there has been an increasingly disproportionate rising cost of college textbooks in comparison to the national inflation rate. In the laps of a decade, while all items have known an increase of 21%, the consumer price index for college textbooks have risen by 88% which represents four times the inflation rate (U.S. Bureau of Labor Statistics, 2016). A more extensive analysis covering the past four decades reflected the same outcome for which the consumer price index for college textbooks increased by 1041% in comparison to an all items increase of 308% (Popken, 2015). This alarming financial trend comes ultimately with a stringent blemish on college students budgeting and academic performance.

Many undergraduate and graduate students are left with a default choice to pursue their college courses without purchasing the required reading materials which may jeopardize their ability to successfully complete the courses requirements. In a research survey accounting 1912 community college students from different institutions across Tennessee, near half of the participants conveyed not acquiring the mandated course material in reason of the exorbitant cost, whereas 3.3% voiced having unsuccessfully completed the course for the same reason (Spica, & Biddix, in press). In an attempt to circumvent this financial hurdle, numerous students resort to cheaper alternatives



such as buying used textbooks and renting while universities and faculty are increasingly adopting open educational resources (OER). While some research points to no differences in academic performance between using traditional textbooks and OER (Winitzky-Stephens & Pickavance, 2017), the need to align course materials and teaching pedagogy with the multicultural demands of today's college classrooms remains unfulfilled.

As illustrated in the discussions above, the classrooms of the 21st century have drastically changed and gained in diversity compared to previous centuries. This social change needs to be reflected in academic texts that represent a broad range of human experiences and expressions. In the current study, we predicted that undergraduate students who read text that encompassed an array of cases in adverse childhood experiences would gain higher levels of multicultural understanding than students reading about the nuts and bolts of designing research methods in human development.

## **1. Literature review**

### **1.1. Multicultural sensitivity training in higher education**

There should be no rebut over the claim that education holds a fair share in addressing social injustices rooted in historical and cultural intricacies. While the US harvests the highest number of immigrants in the world (UN, 2019), several groups have been historically marginalized with ongoing consequences to date. Beginning with the colonization of the Americas by Europeans, non-white populations were seen as unequal and a threat. This was true for the indigenous population and the enslaved people, who were used as a labor force and confined to that role. The culture of these ethnic groups was also seen as inferior, becoming the norm in the U.S. towards all people of color, where their needs, based on their distinct experiences, were ignored. During various times in U.S. history, different ethnic groups even from Europe, such as Germany, were looked down upon and stigmatized (Siegel & Silverman, 2017). Varied factors translated to differences in services and access to resources provided to separate groups based on their ethnic backgrounds. Black Americans, for instance, did not receive the same access to financial opportunities and were seen as dramatizing their medical pain and weren't properly treated for their illnesses (Kirthi & Jackson, 2021; Messey, 2020). Women faced similar issues in medicine and still face longstanding sexist norms (Riseberg, Johansson, & Hamberg, 2009). Diverse groups within the U.S. are faced with issues closely intertwined in cultural and experiential differences embedded in socio-historical complex developments. The lack of multicultural education gives rise to stereotypes, racism, and aggression against groups perceived as different, creating an unequal and unjust learning environment (Gollnick & Chin, 2013).

With the rapid proliferation in diversity shaping the mosaic that is the US population, the implementation of intercultural curriculums is becoming primordial in preparing future graduates to adopt a culturally responsive approach within their respective professions. Eventually, for a myriad of regulated professions, multicultural competency has become an extrinsic academic component and an uncontrollable professional standard. For instance, entities regimenting the practice of pharmacy in both the US and Canada rigorously call for programs to prepare students in meeting standards pertaining to provide care with consideration of patients' race and ethnicity, language, gender determinants, sexual orientation, age, religious and health beliefs for which significant correlations were identified among culture, health literacy, and health outcomes (Chen et al., 2021). Similarly, the American Psychological Association (APA) Commission on Accreditation (2018) demands that accredited programs must incorporate curricular elements for doctoral applicants to demonstrate competency in individual and cultural diversity. With these established standards in place, systematic reviews identified the need to revise evaluative criteria, methodology, and standardization of tools measuring the efficacy of cultural competence curriculum for health professionals (Lie et al., 2011; Price et al., 2005). Ultimately, there is a need for further research to solidify effective cultural training across higher education curriculum.



To ensure students' multicultural competency post-graduation, the higher education sector requires ongoing revamping of its curriculum. Among those prospective changes are the scope and number of multicultural courses required within each major/minor of academic study. Phillips (2000) identifies that including the factors contributing to elevated levels of cultural sensitivity within pre-service teachers who minored in educational computing were the required courses for the educational computing minor. Another factor that was also identified as having a direct relation to an increase in cultural sensitivity was frequent exposure and socialization with individuals from diverse ethnic minorities (Phillips, 2000). Therefore, the development of programs with minorities at their core may be relevant in promoting a positively multicultural university or college climate. For instance, upon the development of an Indigenous and Cross-Cultural Psychology Unit at the Curtin University of Technology, numerous individuals from diverse cultural backgrounds within the university reported, based on informal measures, a sense of social validation (Sonnet et al., 2000). As sentiments of confirmation and support may often come when experiences are shared among a group of people, providing students with opportunities to be immersed in foreign cultural experiences would contribute to raising their cultural awareness and exposure to serve the everchanging needs of an interconnected world.

### **1.2. Empathy training as part of the curriculum**

Empathy is the cornerstone of ethics which has been viewed as an ability that can be taught to value other people's welfare by igniting one's curiosity towards different worldviews (Jeffrey & Downie, 2016). An empathetic person is capable of understanding and meeting the basic need of humans—the fundamental need to be understood (Rogers, 1957). With the current complex societal changes, education in multicultural awareness, cultural empathy, and cultural sensitivity is of the hour to facilitate the dynamics of a widely diverse college and university demographics. Imminently, the quest for empathy and cultural sensitivity must become a pedagogical priority that lies within higher education institutions' responsibility.

Previous research explored course syllabi changes through which students may cultivate their levels of empathy and belief of others' subjective realities and experiences. Poorman (2002) conducted a qualitative and quantitative study in which he aimed to improve empathy in college students by adopting in-class experiential learning such as biography writing and role-playing. Poorman's undergraduate and graduate students who were enrolled in an abnormal psychology course were asked to role-play a fictional character diagnosed with a disorder as per the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) for which they would have had written a thorough autobiography. Students' level of empathy was measured pre and post completion of the assignment using the Davis Interpersonal Reactivity Index (IRI). Additionally, students were interviewed after completing the biography, then again, after performing the role-play to assess their outlook on the assignment and how it had affected them. The study affirmed that students were able to develop empathy, not only toward mental health patients but mental health practitioners alike, due to the usage of this atypical teaching style (Poorman, 2002). Similarly, Hatcher et al. (1994) conducted a study with the goal of teaching empathy while utilizing Roger's Person-Centered Approach techniques. The correlation study measured variation in different component of empathy between a group of high-school students (i.e., junior and senior year) and college students who received a counseling course on peer facilitation skills for an entire semester in comparison to college students who were enrolled in a behavioral psychology course. Results of administration of the IRI pre and post completion of the course demonstrated that students who received peer facilitation skills training displayed a significant increase in levels of perspective taking and empathic concern when compared to their untrained counterparts who took a behavioral psychology course displaying no progress on any scale of empathic development. Hatcher et al. (1994) concluded that empathy can be taught by instructing students on Rogerian counseling principles. In the context of our research, the usage of a textbook that is outside of the typical selection periphery may as well support the claim for curriculum change to promote cultural sensitivity.



### 1.3. Current study

The current pilot study investigated whether utilizing an unconventional textbook (Szalavitz & Perry, 2010), with empathy as the central theme, versus using a traditional textbook (Miller, 2017), with developmental research methodology as the core topic, would result in distinct cultural sensitivity levels among students enrolled in an upper-level undergraduate college psychology course. In the conventional textbook context, students discussed developmental theory and worked in small research groups to propose a future research study to call attention to pressing societal issues concerning child welfare. Their proposal had to go through a mock Institutional Review Board (IRB) trial and was presented as an APA poster at the end of the semester. In the unconventional textbook context, students were assigned to read and discuss the essential need and endangerment of empathy based on clinical case studies of child pathology. They completed weekly prompts in Blackboard's online discussion forum and had to submit a research report on individually conducted interview roleplays with parents on the challenges and joys of parenting, previously developed (Pfleger & Yuksel, 2019). At the end of the semester, students from four sections of an upper-level developmental course were invited to participate in this study as volunteers. The effect of textbook usage (conventional versus unconventional) was tested on students' cultural awareness, cross-cultural communication, and multicultural awareness. The researchers hypothesized a positive correlation between the use of empathy driven reading materials and levels of cultural sensitivity.

## 2. Methodology

### 2.1. Design and procedure

The current experiment assessed the efficacy of college textbook reading on undergraduate students' multicultural learning. Participants for the current experiment were recruited from four sections of a 300-level undergraduate psychology course offered at an urban university. At the end of the academic semester, participants were invited to participate in an online survey measuring their multicultural awareness, using the Cultural Diversity Assessment Inventory (CDAI) by Henry (1991). Participants were divided into two groups: One group, which will be referred to as the CG, used for the course a conventional research methods textbook emphasizing collaborative research proposal, namely *Developmental Research Methods* by Scott A. Miller (2017). The other group, which will be referred to as the UG, utilized for the same course a popular science textbook focusing on current societal issues, adverse childhood experiences, trauma-informed therapy, and the cycle of violence, namely *Born for Love: Why Empathy Is Essential--And Endangered?* by Maia Szalavitz and Bruce Perry (2010). Towards the end of the semester, just before the final research assignment, students were sent an email invitation to participate in this IRB-approved study with instructions to the consent form and online survey link.

### 2.2 Recruitment and participants

A total of 99 potential participants were invited to participate in the current study and divided as follows: 54 students in the CG and 55 students in UG. For the final study, 64.65 % of students submitted their online self-reports on cultural sensitivity, resulting in a configuration of the CG as follow:  $n=36$ , 41.67% Hispanic, 33.33% African American, 21.05% Caucasian, 2.78% Middle Eastern; whereas the composition of the UG was as follow:  $n=31$ , 70.79% Hispanic, 9.68% African American, 6.45% Caucasian, 3.23% Middle Eastern. The ethnic background was representative of a Hispanic Serving Institute (HSI). The total number of female participants was considerably higher than that of male participants across both groups. The CG was composed of 11.11% male and 88.89% female, whereas the UG was composed of 19.35% male and 80.65% female. The number of employed participants across the two groups was considerably discrepant. At the time of the study, 55.56% of the CG were employed versus only 6.45% of the UG. Both groups seemed to be homogenous in academic performance. There were no significant differences in the students' current cumulative Great Point Average (GPA) between the CG ( $n=30$ ,  $M=2.99$ ,  $SD=0.74$ ) and the UG ( $n=27$ ,  $M=3.17$ ,  $SD=0.66$ ),  $t(65) = -.98$ ,  $p=.586$ . The UG indicated to spend on average more time (i.e., hours of total college





coursework) studying weekly ( $M=12.61$ ,  $SD=13.21$ , range: 3-40 hours) than the CG ( $M=8.78$ ,  $SD=8.29$ , range: 1-40 hours), yet this difference was not significant,  $t(65) = -1.44$ ,  $p=.154$ .

### 2.3 Measures and instruments

We used an adaptation of the CDAI by Henry (1991). The original inventory was designed for service teachers and consisted of 28 questions, which were cut to 25 in the current survey to measure experiences associated with college students. The CDAI measured the level of sensitivity to cultural diversity in three areas: a) awareness of a multicultural society, b) cultural awareness, and c) cross-cultural communication. In addition to the CDAI's 25 questions, the survey also included 23 questions to obtain information on socio-demographic data, study habits, on- and off-campus activities, and open-ended questions about identity and culture. On a 5-point Likert scale, participants were asked to self-rate their beliefs, attitudes, likelihood toward individuals and/or situations associated with cross-cultural encounters or experiences. In order to assess participants' on-campus and off-campus cross-cultural encounters and engagements prior participating in the current study, we added questions that pertained to their circle of friends, international and cultural experiences within the classroom and outside of the classroom. The study was approved by the IRB of New Jersey City University (NICU) and student participation was completely voluntary and anonymous.

### 3. Results

The data analysis was conducted using the International Business Machines Statistical Package for the Social Sciences (IBM SPSS) software. First, we will report participants' engagements and activities in a cross-cultural context pertaining to off-campus (i.e., circle of friends, study-abroad) and on-campus activities (i.e., course work, assignments). Next, we will report the results of the CDAI for: a) awareness of a multicultural society, b) cross-cultural awareness, and c) cross-cultural communication.

#### 3.1. Off-campus and on-campus cross-cultural engagements

Table 1 below shows participants' involvement of on-campus activities for the Conventional Group (CG) and the Unconventional Group (UG). Majority of students across groups were not involved in on-campus activities (71.6% vs. 28.4%), displaying no differences in their campus involvement,  $t(65) = .427$ ,  $p=.676$ .

Table 1. Comparison of on-campus involvement among participants across groups

Participants ( $N=67$ )	not involved on-campus	involved on-campus
Conventional Group (CG) ( $n=36$ )	69.44%	30.56%
Unconventional Group (UG) ( $n=31$ )	74.19%	25.81%

Table 2 below breaks down participants' circle of friends for the Conventional Group (CG) and the Unconventional Group (UG). Participants across groups were homogenously similar in how ethnically mixed their circle of friends were,  $t(65) = -1.69$ ,  $p=.096$ . Overall, participants reported that their circle of friends was either ethnically mixed (49.25%), close to their ethnic background (37.31%), or not at all ethnically mixed (13.43%).



Table 2. Comparison of diversity in friendship among participants across groups

Circle of friends is...	CG ( <i>n</i> =36)	UG ( <i>n</i> =31)	Total ( <i>N</i> =67)
ethnically mixed	58.33%	38.71%	49.25%
very few ethnically mixed	8.33%	6.45%	7.46%
mostly from same ethnicity	11.11%	19.35%	14.93%
very much from same ethnicity	13.89%	16.13%	14.93%
not at all ethnically mixed	8.33%	19.35%	13.43%

Table 3 displays self-reports pertaining to cross-cultural work, measured on a 5-point Likert Scale (from strongly agree to strongly disagree), and shows strikingly similar patterns across participants to how they believed that:

a) Their overall off-campus activities involved minimal cross-cultural work (CG:  $M=4.00$ ,  $SD=1.01$ ; UG:  $M=3.71$ ,  $SD=.97$ ),  $t(65)=1.19$ ,  $p=.078$ . Roughly one third of the CG (36.11%) and the UG (25.81%) indicated that they participated in off-campus activities,  $t(65)=.90$ ,  $p=.075$ .

b) They did not expose themselves enough to cross-cultural courses (CG:  $M=4.11$ ,  $SD=1.01$ ; UG:  $M=4.10$ ,  $SD=1.01$ ),  $t(65)=.6$ ,  $p=.909$ .

c) Their overall coursework had covered little cross-cultural work (CG:  $M=4.06$ ,  $SD=1.01$ ; UG:  $M=4.16$ ,  $SD=1.00$ ),  $t(65)=-.43$ ,  $p=.428$ .

Table 3. Comparison of participants' cross-cultural experiences (Standard deviation in parentheses)

	CG ( <i>n</i> =36)	UG ( <i>n</i> =31)
Overall, my off-campus activities involve little cross-cultural work.	3.83 (1.00)	3.90 (1.01)
I have not exposed myself enough to cross-cultural courses	4.17 (1.00)	4.03 (1.02)
Overall, my coursework has covered little cross-cultural work	4.11 (1.01)	4.10 (1.01)
I incorporate into my assignments cross-cultural perspectives or literature	4.28 (0.97)	4.48 (0.89)

Interestingly, although participants felt that their coursework and off-campus activities had little cross-cultural content, they felt that they included cross-cultural perspectives into their course assignments, (CG:  $M=4.39$ ,  $SD=.93$ ; UG:  $M=4.35$ ,  $SD=.95$ ),  $t(65)=.15$ ,  $p=.770$ ).

In summary, participants across both groups (UG, CG) showed no significant differences in their on-campus and off campus engagements concerning on or off campus activities, coursework, or social activities (i.e., circle of friends). The homogeneity among participants may suggest similar cross-cultural experiences

### 3.2. Cultural sensitivity

Table 4 shows average mean differences between the UG and the CG regarding their cultural sensitivity scores (i.e., multicultural awareness, cultural awareness, cross-cultural communication). Multicultural awareness was significantly higher in the UG ( $M=17.03$ ,  $SD=1.91$ ) than in the CG ( $M=15.83$ ,  $SD=1.93$ ),  $t(65)=-2.55$ ,  $p=.012$ . The type of textbook usage had a 4% chance of predicting higher levels of cultural sensitivity in the UG than in the CG,  $F(1, 65)=6.49$ ,  $p=.013$ ,  $R^2=.04$ ). Results of the independent t-test revealed no significant differences in cultural awareness between the CG ( $M=12.03$ ,  $SD=2.30$ ) and the UG ( $M=12.19$ ,  $SD=2.32$ ),  $t(65)=-.29$ ,  $p=.770$ . Likewise,





levels of cross-cultural communication did not differ between the UG ( $M=9.92$ ,  $SD=2.18$ ) and the CG ( $M=10.13$ ,  $SD=2.26$ ),  $t(65)=-.40$ ,  $p=.694$ .

Table 4. Comparison of cultural sensitivity among participants by group (Standard deviation in parentheses)

	Multicultural Awareness		Cultural Awareness		Cross-Cultural Communication	
CG ( $n=36$ )	15.83	(1.93)	12.03	(2.30)	9.92	(2.18)
UG ( $n=31$ )	17.03	(1.91)	12.19	(2.32)	10.10	(2.23)

## 4. Discussion

### 4.1. Educational textbooks

In most assigned specialty courses, college textbooks are extensively similar as far as format and content, style of writing, and organization. Research investigating academic performance in relation to the instructor's choice of textbooks within the established conglomerate of texts is slim (Druwin & Sherman, 2008). Thus far, and in terms of format and content, Grissett and Huffman (2018) found no difference in performance across students of an Introduction to Psychology course who used an OER (i.e., pdf format) and students who used a paper version textbook covering the same material. Although the findings in another study were similar in regard to writing style, results indicated that students in an introductory psychology course preferred narrative over informative texts (Fernald, 1989). In counterpart, the literature addressing how students' learning is affected by the usage of textbooks that differ from the typically assigned college reading material is scarce. The most relevant research that we could retrieve pertains to Thomas (2017) who investigated college students' engagement in a course when using an adapted digital game-based textbook based on Prensky's (2001) digital game-based learning (DGBL) in comparison to using a print version of a typical college textbook. The results indicated that students dedicated much more effort and time to the course when using the digital game-based textbook than their peers who used a traditional physical textbook. As of exploring the impact of typical college textbooks versus other texts impact on students' multicultural competency, to our best knowledge, we could not find literature examining college students' cultural sensitivity and awareness as a function of text type.

In this pilot study, we investigated the impact of the course textbook's selection on the cultural sensitivity of undergraduate students taking an upper-level psychology course at an urban senior college. The results indicated that the usage of a popular science book accompanied with whole class discussions of highlighted clinical case studies in the designated book had enhanced the idea of a multicultural society within students (UG) in comparison to utilizing text-material that focuses on hypothesis testing among smaller student research teams (CG). These outcomes support Papadopoulos et al. (2016) claims that reflection driven discussion and lectures of clinical cases may aid future practitioners to be more compassionate and interculturally literate. While the college textbook remains a pivotal point in instruction, this curricular tool could be used in nurturing empathy within college students and subsequently utilized as an underpinning to foster multicultural sensitivity. However, within our study, students' cultural awareness and cross-cultural communication appeared to be unimpacted by the choice of textbooks used for the course. Previous research studying the effect of study abroad experiences among graduate and undergraduate students, also found no group differences in cross-cultural communication and cultural sensitivity, possibly due to the diverse nature of the student population (Andha et al., 2020).

### 4.2 Social Interactions

The current study's null findings within the two study groups (CG, UG) may also be interpreted in the light of a lack of participation and exposure to cross-cultural activities: extracurricular events, courses, and off-campus activities. In parallel, the qualitative data suggests that the awareness of a socially diverse environment does not indispensably



dictate cross-cultural interaction. Even though participants within this study were from distinct social and ethnic backgrounds, the overall of their social interactions were constrained to their own cultural groups. Half of the participants reported having close friends who are not ethnically mixed. There might be several reasons why the diverse campus environment might not be congruent with the diversity of friendship in the current sample as previously shown. Our participants are female who are less likely to have diverse friendships compared to male college students of ethnic minorities (e.g., Fischer, 2008). Our data show that participants were little involved in on-campus activities, which otherwise might have increased their likelihood of forming diverse friendships due to proximity to engaged activities with ethnically different campus members. Given the fact that the site of the study is known to be a commuter campus serving mostly first-generation college students of Hispanic background, friendships might have been formed before coming to college, such as in high schools, where segregation still prevails in both areas, metropolitan and suburban (Zhang & Ruther, 2021). Regardless of preferences for social interactions, the totality of participants agreed that more cross-cultural course work is needed.

To remediate this matter, institutions may require students to take substantially more specialized courses in multiculturalism, cross-cultural communication, and diversity as a graduation requirement (Phillips, 2000). Similarly, educators may be encouraged to increasingly implement collaborative learning and mixed-group work within the classrooms for it has been demonstrated to foster intercultural skills and competency within students (Daly et al., 2015; de Hei et al., 2020). However, strictly proceeding with this additive fashion has been deemed limited for which the combination of additive and infusion strategies with intercultural inquiry at its core has yielded more effectiveness (Dunn et al., 2009). For educators to adequately adapt to the social-cultural demands of their diverse classrooms, they must first be aware of their own socio-cultural attributes and biases then of the population they would be serving. Similarly, students should be invited to retrospect and investigate their own cultural heritage with the mission of mapping elements of strength and prejudice. This practice could eventually lead to facilitating the dialogue among the distinct cultural groups forming a given classroom and catalyzing group work among them.

Pervious research has demonstrated that when university students are assigned group work, they tend to gravitate toward working with classmates from the same or similar cultural background (Mittelmeier et al., 2018). Within our research, the instruction provided to the CG encouraged group collaboration among diverse students, yet our study lacks assessment of the effects of student small-group performance on intercultural learning. During group work, students not only become aware of what they do or do not understand in comparisons to peers but are given the opportunity to bride previously acquired knowledge to new concepts and information discussed through guided participation (Rogoff, 1990). Proceeding with such a guided practice of collaborative cultural inquiry would increase and expand cross-cultural communication among diverse cultural entities, possibly contributing to a diverse classroom climate. According to our findings, engaging students in groupwork might have been as effective as engaging them with clinical case studies to nurture cultural sensitivity and cross-cultural communication. Since the current pilot study relied on volunteer participation, it is possible that academically stronger and open-minded students were more inclined to participate in this study than less academically engaged students. Further research is needed to examine how overall course performance might affect intercultural learning and tolerance towards others.

## **5. Limitations and future directions**

The authors of this pilot research study acknowledge the presence of numerous limitations within the method section including sample size sufficiency and generalization, participants screening, and pre-interventions measures. The sample size of this pilot study is deemed by the authors to be insufficient. With the cohort of students across all four sessions totaling a few 99 students to begin with, only 67 students completed the CDAI toward the end of the semester. This constitutes a small sample size for which differences between the two groups may have emerged from statistical errors of measurement putting the generalization of results in peril (Tipton et al., 2017). Additionally, the



generalization of results may be a liability not only due to the small sample size but also the demographic's characteristic dictated by the geographical location where the study was conducted, specifically the tristate area (i.e., New Jersey, New York, and Connecticut), which is known for its diverse population. As established earlier, there is a positive correlation between social interaction with individuals from different ethnicities and races and cultural sensitivity (Phillips, 2000). Therefore, there is an increased probability that these results are not replicable in certain parts of the country where the population is homogeneous and mostly composed of a social majority or a sub-dominant culture group.

Within the same context, although participants reported that they did not expose themselves to cross-cultural training, it is important that future studies include specific questions about multicultural training within the study participants' respective professional settings to collect data on cross-cultural knowledge and compare with the course during which the study was conducted. Most importantly, the participants were not subjected to taking the CDAI pre-implementation of the two different text-materials for which a clear size-effect could have been measured among the two groups as for the efficacy of the text-material used. Likewise, the study lacked a pre and post measure of empathy within participants to the contrary of similar past studies (Poorman, 2002; Hatcher et al., 1994).

Despite these shortfalls, the results remain indicative of the many ways and areas needed to be revamped for the higher education curriculum to be an organic conduit toward multicultural sensitivity. While future studies shall remediate the methodological limitations stated above, the results inform us that pedagogical points for curriculum design, other than teaching and learning materials (i.e., textbook), must be revisited as well. These key curriculum concepts include but are not limited to instruction techniques, theoretical frameworks, goals and objectives, and assessments. First, adequate techniques in the delivery of instruction within a multicultural classroom must be investigated vis-à-vis the dynamic of power, notions of privilege, minority and majority present among the groups forming a given classroom, as well as the perceived role and status of the instructor within this entity. Second, while most scientific content is based and taught from a western perspective, future studies should inquire about the inclusion of cross-cultural theoretical frameworks throughout different fields of study. Third, while every curriculum involves specific goals and objectives, future research should focus on the design of an intracultural curriculum that aims to incite students to critically think about the practical implication of the subject study at hand from a multicultural approach. Lastly, curriculum-based measures (CBM) must be analyzed for their malleability to the students' social-cultural attributes and limitations. As far as teaching and learning materials are concerned in increasing students' multicultural sensitivity, future studies are to explore the selection requirements of materials proper to an efficient intercultural curriculum.

## 6. Conclusion

Given the need to prepare college students for a globally interconnected job market, the systemic incorporation of effective intercultural curriculums in higher education is a task that must start instantaneously. While the prospect of an intercultural curriculum is of outmost appealing value, there is no applicable referential model for such curricular design, implementation, and assessment (Dunne, 2011). Meanwhile, educators must take the initiative and display intercultural inquiry in their adoption of teaching techniques, choice of course materials, and designation of students' progress evaluative criteria. The road to multicultural competency is to be paved by fostering multicultural sensitivity, empathy, and cross-cultural interactions. The first step is to strike-out the "melting pot" notion characterizing the US society and endorse the notion of "mosaic" so that minorities are recognized as unextractable entities forming a complex yet compact social fabric. Such conceptualizations may be achieved through open and safe classroom discussions based on unorthodox readings as presented from diverse angles and cultural perspectives.



Since the purpose is to equip future graduates with the necessary tools to efficiently navigate this modern interconnected boundless digital world, we may no longer rely on college textbooks of the same customary format, organization, and content along with teaching methods that are oblivious to the cultural demands of the modern college classroom. Within the established context above, the authors of this research article theorize that an effective and impactful way to foster cultural sensitivity among undergraduate students is to teach empathy-oriented topics as part of the curriculum by engaging students in unconventional thought-provoking reading materials. Answering this call, however, incites a change in the landscape of higher education where instructors and institutions should be required to effectively implement thoughtful, safe, and discussion-driven multicultural course content. It becomes, then, the institution's responsibility to actively implement practices into the curriculum to effectively expose students from diverse backgrounds to the emerging fundamental skill of cultural sensitivity. In order to discover new and foreign perspectives, and as the Chinese proverb goes, "don't build a new ship out of old wood."

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### 8. Disclosure of conflict

The authors declare that they have no conflicts of interest.

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